

# Deploying Windchill on Microsoft SQL Server

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# PTC and Microsoft: Product Architecture

Digital Product Value Chain

Clients

Integral Business Logic on a Pure Internet Architecture

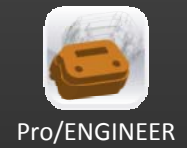
Standards-based Interoperability

Customers



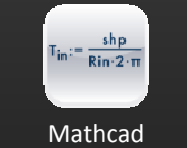
Arbortext Editor

Design Teams



Pro/ENGINEER

Suppliers



Mathcad



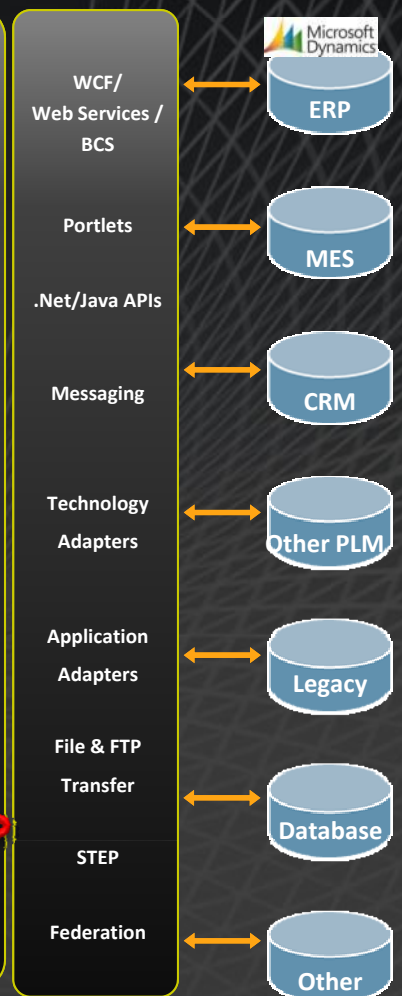
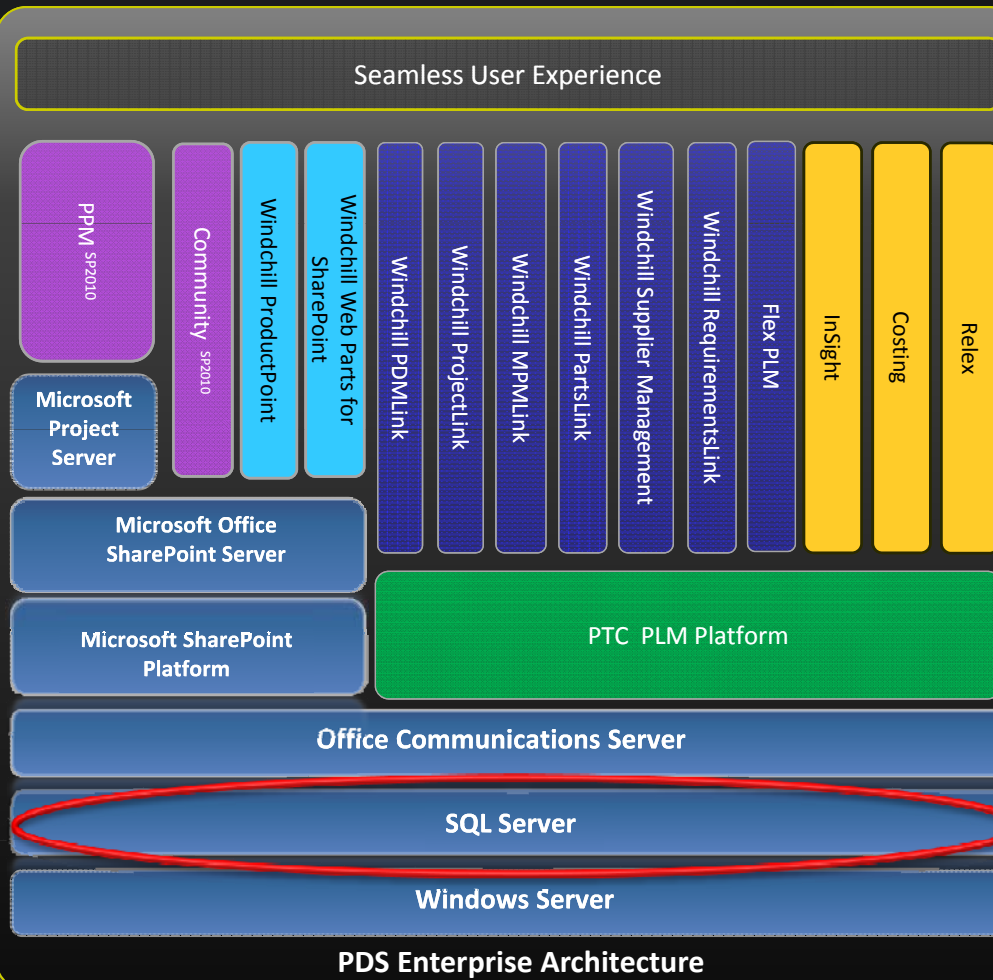
Office

Distributed Manufacturers



Other CAD and authoring Applications

Other Web Clients



# Key Aspects of an Enterprise-Ready Database

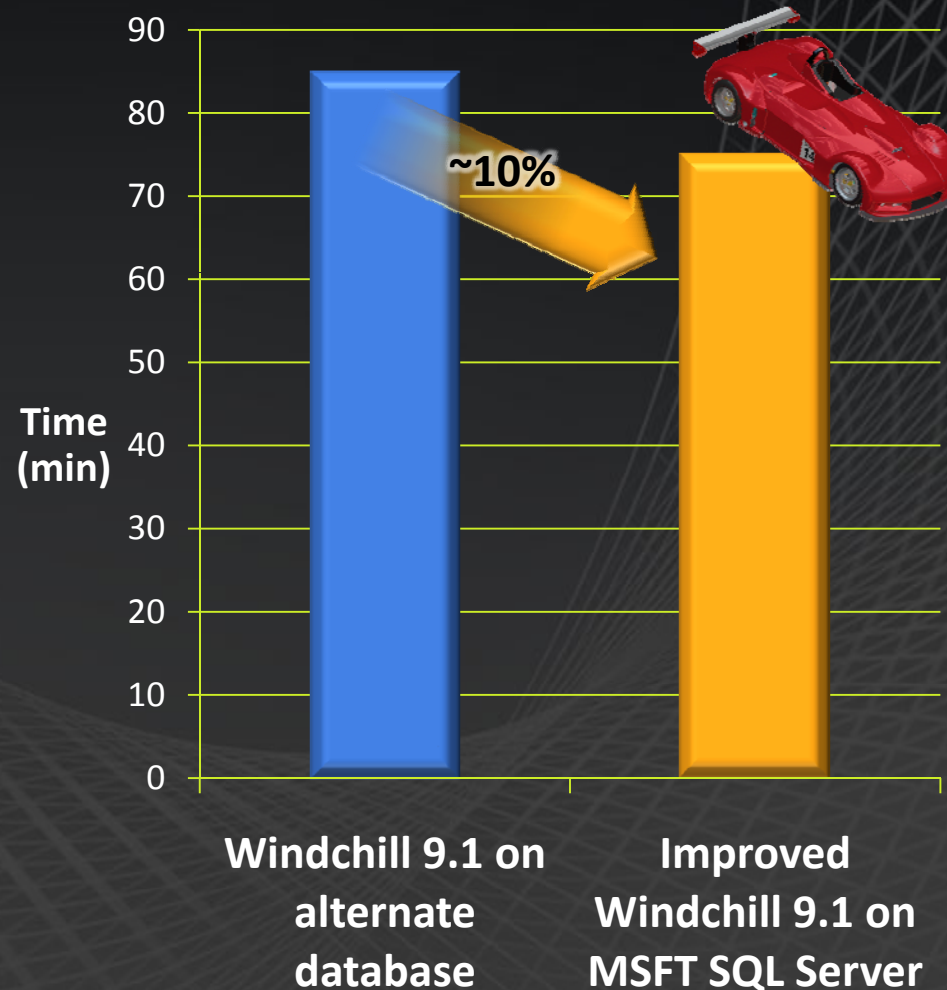
- The amount of data created and managed throughout the lifetime of a product is enormous
- Your database is extremely important to ensure your Product Lifecycle Management solution is running optimally

- Key Database Decision Criteria:
  - Performance and Scalability
  - Security
  - Manageability
  - Total Cost of Ownership (TCO)



# SQL Server is Enterprise-Ready: Windchill Performance and Scalability

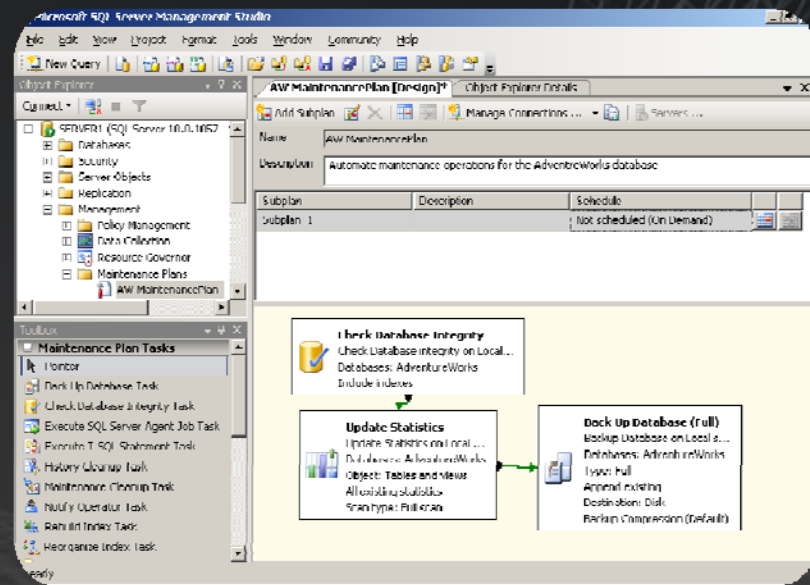
- Windchill CAD Data Management Performance on SQL Server:
  - Tested **Windchill 9.1 M050**: 100 CAD data management transactions using PTC World Car Pro/ENGINEER performance benchmark dataset (2375 files, 488 MB) in 33 areas
- Results:
  - An average of 10% faster than Windchill 9.1 releases on an alternate database
  - An average of 35% faster than previous Windchill 9.1 releases on SQL Server



# SQL Server is Enterprise-Ready: **Manageability**

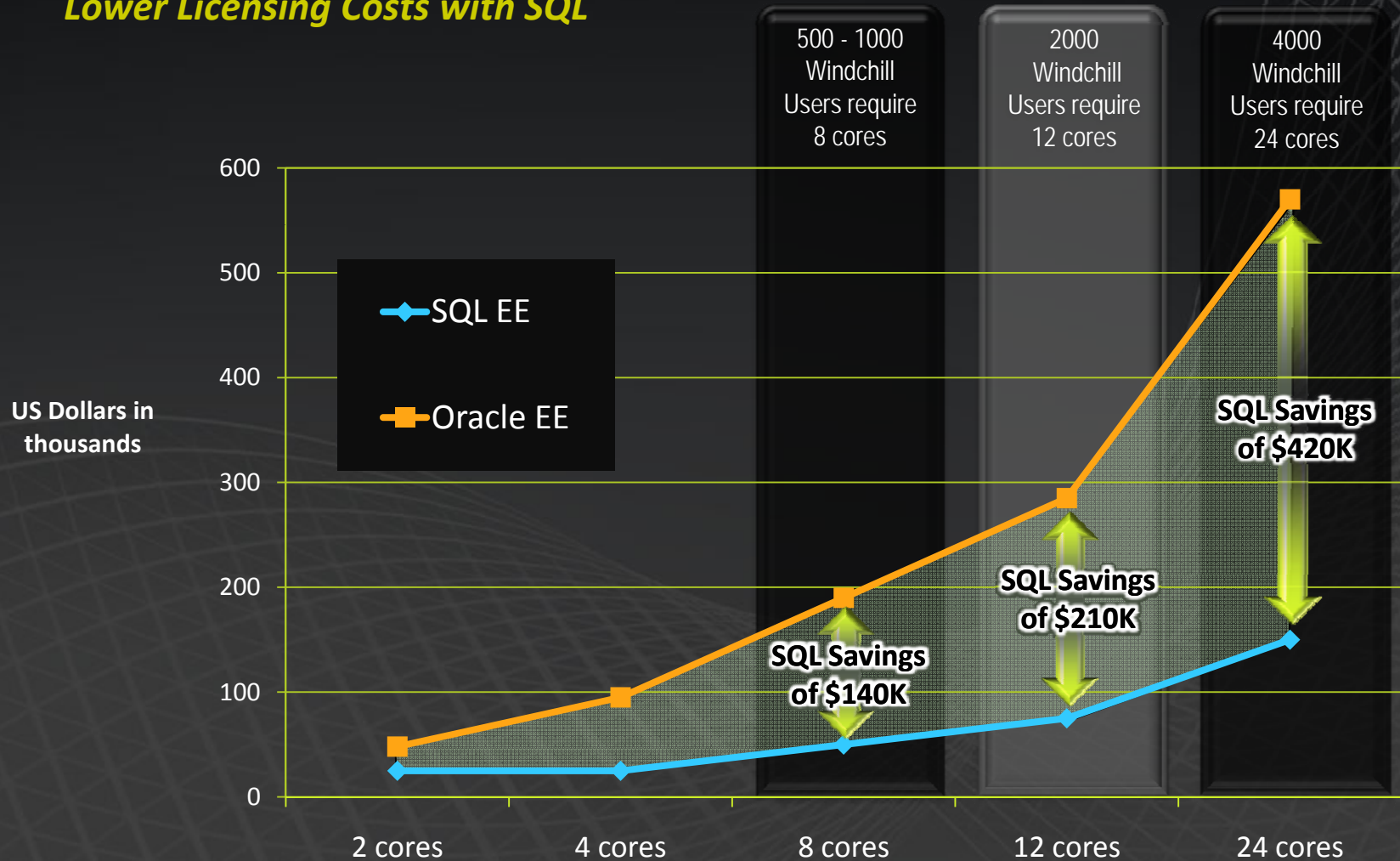
- Ease of installation
  - Graphical user interface easily guides administrator
  - Process is accomplished quickly and with minimal input from administrator
- Backup and restore
  - Can take place in parallel, across multiple servers, allowing the administrator to take care of other priorities
- Management tools
  - Integrated management tool suite with support for the automation of routine tasks
  - Proactive systems for monitoring system health and performance
  - Enhanced performance tuning tools
  - Table and index partitioning to improve manageability and performance

*Tools and features simplify the process of deploying and managing*



# SQL Server is Enterprise-Ready: Lowest Total Cost of Ownership

*Lower Licensing Costs with SQL*



# Windchill on SQL Server **Customer Successes**

“ Quanta hopes to have better information and data management and a future-proof database, therefore the performance and scalability of SQL as the platform for Windchill is very critical. Much future expansion will have to be supported by this platform. Today Quanta has chosen SQL as the database for its PLM system, we believe SQL will also be the de facto standard database for PLM system databases in the future.”

- T.J. Fang, CIO



“ At Penske Racing, we understand the importance of speed and performance. We chose PTC’s Windchill and Microsoft’s SQL Server because we wanted the best product development solution on the market and a database that offered enterprise-ready functionality and low total cost of ownership. It took us less than a week to upgrade from our previous version of Windchill running on an alternate database to Windchill 9.1 on SQL 2005. We’re already seeing performance gains, and we’re really happy with our decision.”

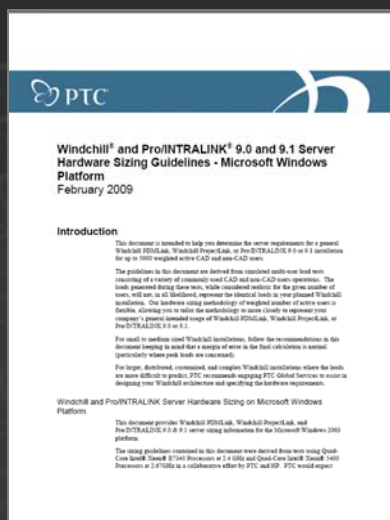
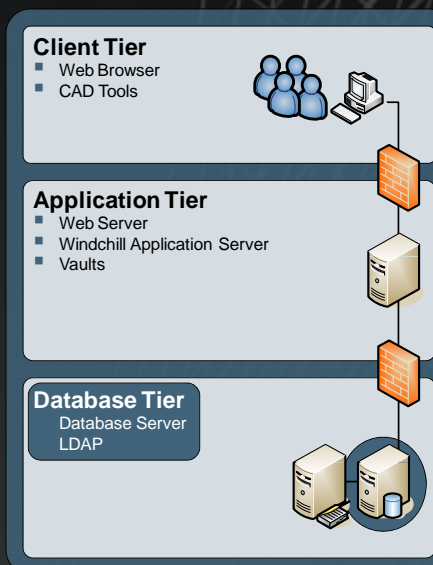
- Thomas German, Penske Racing Technical Director



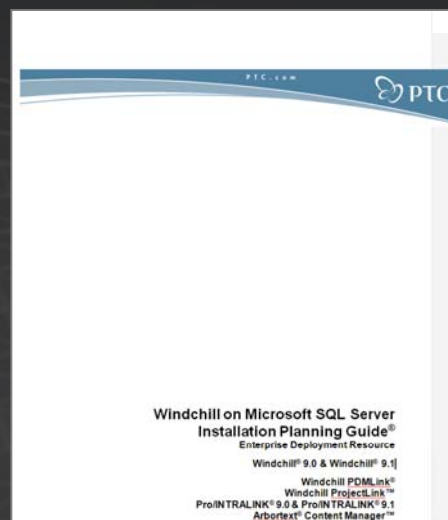
# Deploying Windchill 9.1 on Microsoft SQL Server

Windchill on Microsoft's SQL Server Database – Supported *Since Windchill 8.0 M040 (2007)!*

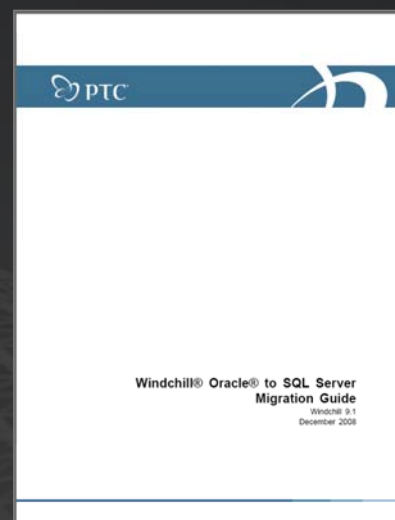
Customer Description	Deployment Option
A. New Windchill Customer	Deploy Windchill 9.1 on SQL Server
B. Existing Windchill 9.1 -on-Oracle Customer	Migrate Windchill on Oracle to Windchill Microsoft SQL Server
C. Pro/INTRALINK 3.4 Customer	<b>Step 1:</b> Migrate Pro/INTRALINK 3.X to Windchill on Oracle <b>Step 2:</b> Migrate Windchill on Oracle to Windchill on SQL Server



Windchill 9.0/9.1 Hardware Sizing Guide for Windows Platform



Windchill on Microsoft SQL Server Installation Planning Guide

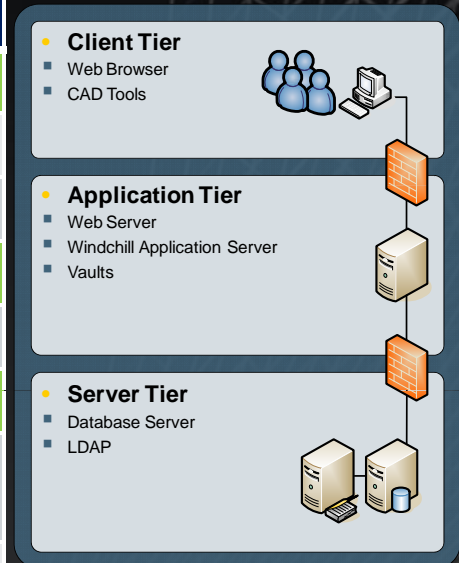


Windchill Oracle to SQL Server Migration Guide



# PTC - Microsoft Technology Road Map

Technology Stack	Windchill 9.1	Windchill 10.0
<b>Client Tier</b>		
Browser	Internet Explorer 6, 7, 8	Internet Explorer 7, 8, 9
Client OS	Windows Vista, XP	Windows 7, Vista, XP
<b>Application Tier</b>		
Web Server	Apache or IIS 6, 7	Apache or IIS 7.5
<b>Server Tier</b>		
LDAP	WindchillDS & Active Directory	WindchillDS and Active Directory
Database	SQL Server 2005	SQL Server 2008 <i>SQL Server 2008R2</i>
Server OS	Windows 2003 64-bit Windows 2008 64-bit	Windows 2008 64-bit Windows 2008 R2 64-bit
<b>Integration</b>		
Office Integration	Office 2007, 2003, XP	Office <i>2010</i> , 2007, 2003
Project Integration	Project 2007, 2003	Project 2007, 2003
Web meetings	LiveMeeting (latest)	LiveMeeting (latest)
<b>End-to-End</b>		
Full Stack	Microsoft-based only	Heterogeneous



**Future information subject to change without notice**

# New Benefits with SQL Server 2008 R2 on Windows Server 2008 R2

## Low TCO

Reduce storage costs with compression for Unicode data

Build sophisticated reports with Report Builder 3.0

Enable self-service BI with Power Pivot

## Mission Critical



New Datacenter Edition features:

Up to 256 logical processors

Unlimited Virtualization

Handle more demanding applications

Achieve greater throughput

## IT Efficiency

Master Data Management

Dashboard views of instances and applications

Create and store images for rapid deployment by using Sysprep

# Benefit from Scalable and Predictable Performance for Physical Servers

Improved scalability with up to 256 logical processors  
(determined by operating system maximum)

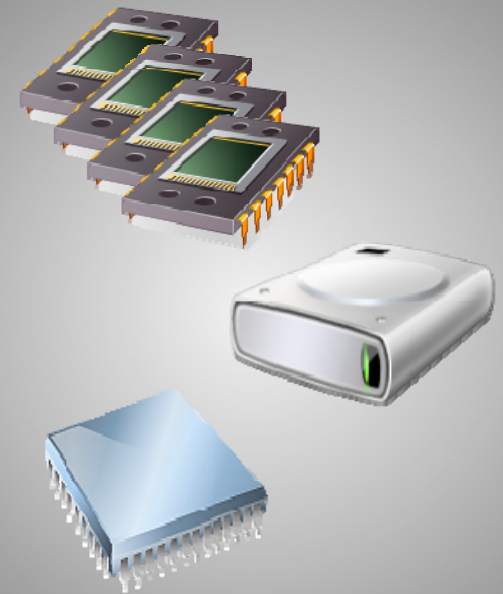
Support for memory in excess of 2TB

Support for Solid State disks

Improved I/O performance with UCS-2  
Unicode and non-Unicode data compression

Faster, smaller backups with backup compression

Resource utilization management with Resource Governor and  
Windows System Resource Manager



# Improve Performance Management and Troubleshooting with Built-In Tools

Performance Data Collector

Resource Governor

SQL Server Profiler

System Resource Manager

Reliability and Performance Monitor



Faster Troubleshooting

Proactive Management

Improved Efficiency

*"From the time we are alerted that we have a problem, we can identify and address the cause of it about 20 percent to 30 percent faster now that we have these tools."*

*helping us maintain our system performance."*

David P. Smith, Chief Technology

Thank You!